

## Silicon PNP Power Transistors

## MJ15023 MJ15025

## DESCRIPTION

- With TO-3 package
  - Complement to type MJ15022; MJ15024
  - Excellent safe operating area
  - High DC current gain
- $h_{FE} = 15$  (Min) @  $I_C = 8$  Adc

## APPLICATIONS

- Designed for high power audio, disk head positioners and other linear applications

## PINNING(see Fig.2)

PIN	DESCRIPTION
1	Base
2	Emitter
3	Collector

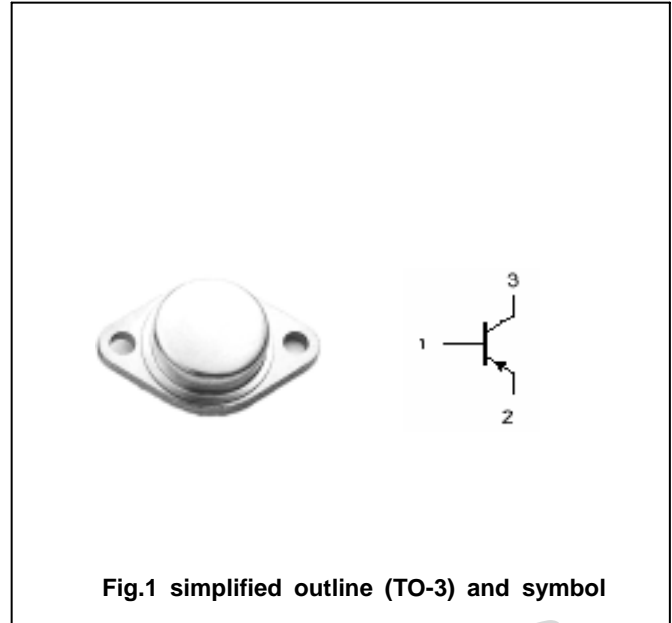


Fig.1 simplified outline (TO-3) and symbol

Absolute maximum ratings( $T_a =$  )

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{CBO}$	Collector-base voltage	MJ15023	-350	V
		MJ15025	-400	
$V_{CEO}$	Collector-emitter voltage	MJ15023	-200	V
		MJ15025	-250	
$V_{EBO}$	Emitter-base voltage	Open collector	-5	V
$I_C$	Collector current		-16	A
$I_{CM}$	Collector current-peak		-30	A
$I_B$	Base current		-5	A
$P_D$	Total power dissipation	$T_C = 25$	250	W
$T_j$	Junction temperature		150	
$T_{stg}$	Storage temperature		-65~200	

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal resistance junction to case	0.70	/W

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## CHARACTERISTICS

T<sub>j</sub>=25 unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-emitter sustaining voltage	MJ15023	I <sub>C</sub> =-0.1A ; I <sub>B</sub> =0	-200			V
		MJ15025		-250			
V <sub>CEsat-1</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =-8A; I <sub>B</sub> =-0.8A			-1.4	V
V <sub>CEsat-2</sub>	Collector-emitter saturation voltage		I <sub>C</sub> =-16A; I <sub>B</sub> =-3.2A			-4.0	V
V <sub>BE</sub>	Base-emitter on voltage		I <sub>C</sub> =-8A ; V <sub>CE</sub> =-4V			-2.2	V
I <sub>CEO</sub>	Collector cut-off current	MJ15023	V <sub>CE</sub> =-150V; I <sub>B</sub> =0			-0.5	mA
		MJ15025	V <sub>CE</sub> =-200V; I <sub>B</sub> =0				
I <sub>CEx</sub>	Collector cut-off current	MJ15023	V <sub>CE</sub> =-200V; V <sub>BE(off)</sub> =-1.5V			-0.25	mA
		MJ15025	V <sub>CE</sub> =-250V; V <sub>BE(off)</sub> =-1.5V				
I <sub>EBO</sub>	Emitter cut-off current		V <sub>EB</sub> =-5V; I <sub>C</sub> =0			-0.5	mA
h <sub>FE-1</sub>	DC current gain		I <sub>C</sub> =-8A ; V <sub>CE</sub> =-4V	15		60	
h <sub>FE-2</sub>	DC current gain		I <sub>C</sub> =-16A ; V <sub>CE</sub> =-4V	5			
I <sub>s/b</sub>	Second breakdown collector current with base forward biased		V <sub>CE</sub> =-50Vdc,t=0.5 s, V <sub>CE</sub> =-80Vdc,t=0.5 s,Nonrepetitive	-5.0 -2.0			A
C <sub>OB</sub>	Output capacitance		I <sub>E</sub> =0 ; V <sub>CB</sub> =-10V;f=1.0MHz			600	pF
f <sub>T</sub>	Transition frequency		I <sub>C</sub> =-1A ; V <sub>CE</sub> =-10V;f=1.0MHz	4			MHz

PACKAGE OUTLINE

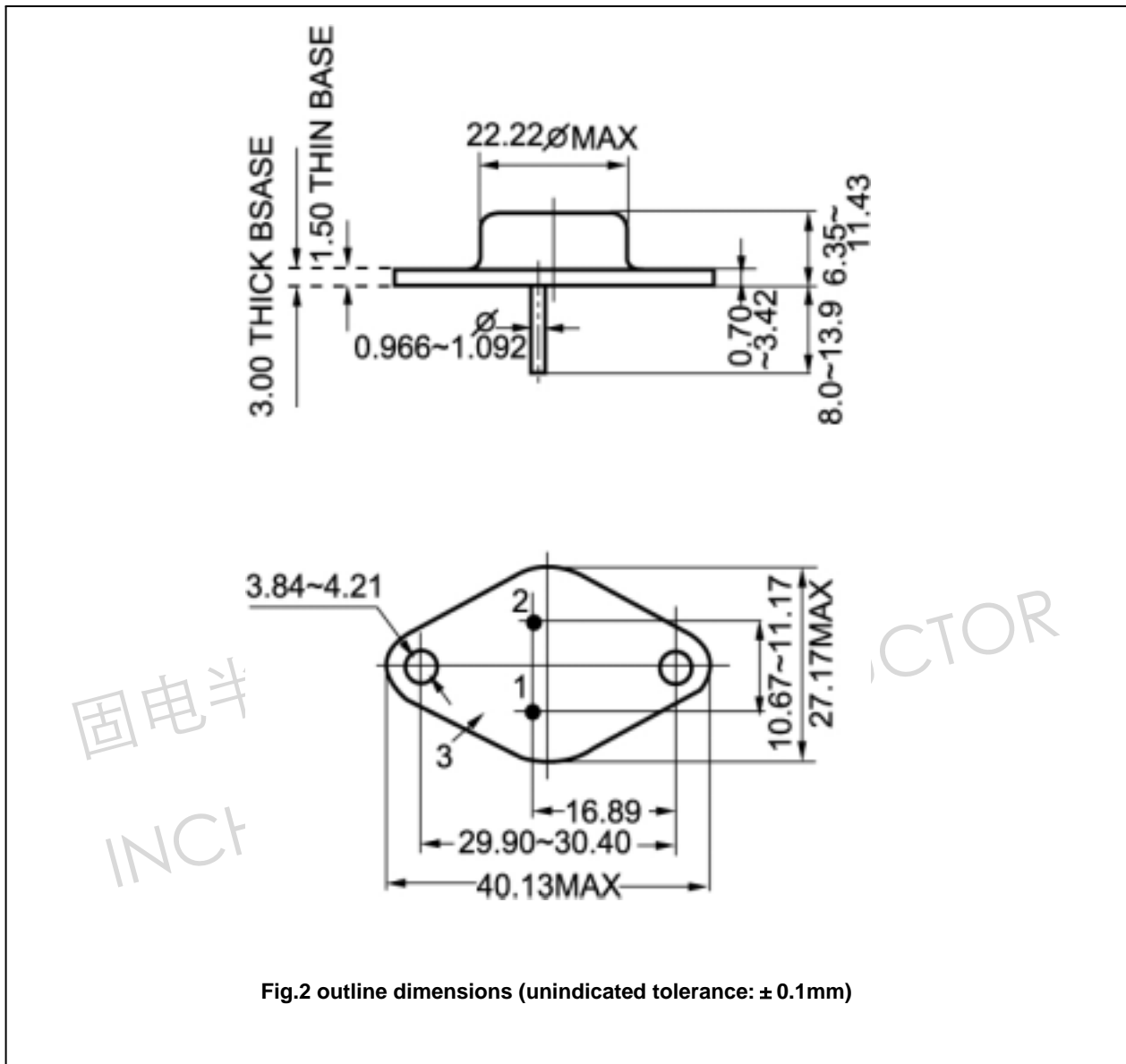


Fig.2 outline dimensions (unindicated tolerance:  $\pm 0.1\text{mm}$ )